REMARKS

Claims 1-13 are pending in the application. Applicants acknowledge with thanks the Examiner's determination of allowable subject matter in claims 5-9. By this amendment, claims 1 and 2 have been amended. Further, claim 13 has been canceled, and the concept from claim 13 has been incorporated into claim 1.. Applicants believe the amendments made herein add no new matter. Reconsideration and reexamination of the application is respectfully requested in view of the amendments and the following remarks.

Claims 1-4 and 10-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,113,847 to Chmura et al. ("Chmura"). The rejection is respectfully traversed.

Chmura discloses a robotic vacuum cleaner 10 comprising a self-propelled controller 12 coupled to a self-propelled cleaning head 14 that move in tandem across a surface area to vacuum dust and dirt from the surface during robotic operations. The controller 12 includes a portable vacuum 20 and a transport module 22 which removably receives and a carries the portable vacuum 20. The portable vacuum 20 has a blower motor 36 that drives a blower 38 for creating an airflow path through a dirt receptacle 32. The cleaning head 14 has a suction inlet 24 in fluid communication with the blower 38 through a hose 16 such that the airflow path created by the blower 38 draws dust and dirt through the suction inlet 24 and the hose 16 for collection in the dirt receptacle 32. The cleaning head 14 further includes at the suction inlet 24 a brush 54 that rotates and assists in collection of dirt and dust, depending on the floor type. Optionally, the portable vacuum 20 can be removed from the transport module 22 for use as a vacuum or blower for manual operations.

Claim 1, as amended, of the present application calls for an autonomously movable home cleaning robot that includes, among other elements, a base housing, a sweeper aperture and a rotary driven brush mounted for rotation in the sweeper aperture for removing debris particles from the surface, a dust bin in close communication with the sweeper aperture for receiving the debris particles removed from the surface and moved into the dust bin by the brush, and a dusting assembly for removing dust from the surface to be cleaned and mounted to an underside of the base housing for removing dust from the floor. The dusting assembly is mounted

rearwardly of the sweeper aperture with respect to a predetermined direction of movement of the base housing for removing dust not removed from the surface to be cleaned by the brush.

The Examiner has rejected claim 1 as being obvious in view of Chmura. In accordance with 35 U.S.C. § 103(a), which requires identification of the differences between the subject matter sought to be patented and the prior art, the Examiner has correctly identified one of the differences between the prior art and the invention in stating that Chmura does not specifically teach a dust bin mounted to an underside of the base housing for removing dust from the floor. Applicants are confused by the use of "dust bin" in this statement at p. 4, l. 1 of the Office Action and presume the Examiner intended to rather use "dusting assembly" as the dusting assembly is the claim feature that is mounted to an underside of the base housing for removing dust from the floor. Regardless, Chmura contains no discussion of a dusting assembly or any type of cleaning assembly other than the vacuum arrangement; therefore, one of the differences between Chmura and claim 1 is that Chmura does not disclose the dusting assembly mounted to an underside of the base housing for removing dust from the floor.

Not only does Chmura not disclose the dusting assembly as defined in claim 1 prior to this amendment but further does not disclose the dusting assembly in claim 1 as amended. Claim 1 has been amended to incorporate the concept from dependent claim 13. In particular, the dusting assembly is mounted rearwardly of the sweeper aperture with respect to a predetermined direction of movement of the base housing for removing dust not removed from the surface to be cleaned by the brush. The Office Action refers to element 14 in Figure 1 of Chmura for a disclosure of the sweeper aperture being positioned generally forwardly with respect to the dusting assembly, but nothing in this figure remotely comes close to such a disclosure. In the home cleaning robot of the current application, the relative locations of the sweeper aperture and the dusting assembly provide for the dusting assembly to remove dust remaining on the surface to be cleaned after the brush has passed over the surface to be cleaned. Chmura does not have such a disclosure nor contemplates having any means in addition to the vacuum arrangement for removing dust and debris from the surface to be cleaned.

Chmura further does not disclose the claimed sweeper aperture, rotary driven brush mounted in the sweeper aperture, and dust bin in communication with the sweeper aperture. The Examiner relies on the vacuum arrangement disclosure in Chmura as meeting the sweeper aperture, rotary driven brush, and dust bin limitations of claim 1. While Chmura discloses a suction inlet 24, a brush 54, and a dust bin 32 as part of its vacuum arrangement, a vacuum arrangement does not equate with a sweeping arrangement comprising a rotary driven brush in a sweeping aperture and a dust bin in communication with the sweeping aperture. A vacuum arrangement relies primarily on vacuum forces generated by a vacuum source to draw the dust and debris from the surface to be cleaned and typically into a dust separator as, for example, a bag filter. A conventional brush used in a vacuum arrangement functions to agitate a carpeted surface to free dust and debris therefrom for removal by the vacuum forces. In contrast, a sweeping arrangement having a rotary driven brush in a sweeper aperture and a dust bin relies solely on the action of the rotary driven brush to lift the dust and debris from the surface to be cleaned through the sweeper aperture and into the dust bin. Due to the inherent differences between these arrangements, the disclosure of a typical vacuum arrangement is not the disclosure of the claimed components of a sweeper aperture, a rotary driven brush in the sweeper aperture, and a dust bin. Furthermore, Chmura discusses using the robotic vacuum cleaner as a blower, which requires the blower motor 36 and blower 38 and would not be feasible with a sweeping arrangement. Applicants believe that claim 1 prior to the current amendment unambiguously recited a sweeping arrangement as compared to a vacuum arrangement but have nonetheless, in the interest of advancing prosecution of the current application, amended claim 1 to more clearly define the sweeping arrangement. In particular, the dust bin is in close communication with the sweeper aperture for receiving the debris particles removed from the surface and moved into the dust bin by the brush, which is characteristic of a sweeping arrangement and contrary to a vacuum arrangement.

Applicants assert that these differences between Chmura and claim 1, *i.e.*, the sweeper aperture, the rotary brush in the sweeper aperture, the dust bin in close communication with the sweeper aperture, and the dusting assembly located rearwardly of the sweeper aperture, and the

invention as a whole would not be obvious at the time the invention was made to a person having ordinary skill in the art. As the examiner is doubtless aware, to establish a *prima facie* case of obviousness, certain criteria must be met. There must be some reason to modify the prior art reference, and the prior art reference must teach or suggest all the claim limitations. In accordance with the above discussion of the claim limitations not present in Chmura and the remarks provided below, these criteria have not been met; accordingly, the obviousness rejection must fail.

The Examiner suggests modifying the vacuum system of Chmura by "introducing the underside dust bin instead of having the bin into element 12 of figure 1" (p. 4, ll. 4 and 5 of the Office Action), and states that "this modification would have been a desire [*sic*] feature into Chmura et al., thereby improving the design and efficiency of the robotic sweeper cleaner with dusting pad" (p. 4, ll. 5-7 of the Office Action). Not only does this modification to the Chmura robotic vacuum cleaner not reach claim 1, but the Examiner does not provide a proper reason to modify Chmura in the manner recommended. Improving design and efficiency are merely generic reasons fashioned to provide some support for the modification of Chmura. Modifying Chmura to include the claimed sweeping arrangement and dusting assembly amounts to pure speculation, and Chmura does not disclose or contemplate such modifications. In fact, Chmura discloses only a vacuum arrangement and has no teaching of modifying the disclosed vacuum arrangement, whether by rearranging the elements of the vacuum arrangement, substitution with other types of cleaning arrangements, or addition of other types of cleaning arrangements. Chmura does not disclose the use of any type of sweeping arrangement or dusting assembly to be used in addition to or as an alternative to the vacuum arrangement. Even if, *arguendo*, the vacuum arrangement is considered a disclosure of a sweeping arrangement, Chmura does not have any discussion of a need for a cleaning arrangement, much less a dusting pad, in addition to the vacuum arrangement. Further, a proposed modification cannot render the prior art unsatisfactory for its intended purpose, and introducing the underside dust bin instead of having the bin into element 12 in Figure 1, as recommended in the Office Action, would destroy the

vacuum arrangement as it would not have a dirt collector to collect the dirt removed from the surface to be cleaned through the suction opening 24 by vacuum forces.

As stated above, the suggested modification to the Chmura robotic vacuum cleaner does not reach claim 1. It appears that the Examiner is attempting to move the dust bin 32 of Chmura from the controller 12, particularly from the portable vacuum 20 of the controller 12, such that it would become an "underside dust bin" that would be considered the claimed dusting assembly. Assuming, *arguendo*, that the Chmura vacuum arrangement meets the sweeper aperture, the rotary brush in the sweeper aperture, and the dust bin limitations of claim 1, a position with which, as discussed above, Applicants do not concur, moving the dust bin 32 to become an "underside dust bin" to meet the dusting assembly limitation "instead of having the bin into element 12 in Figure 1" would result in Chmura no longer having the dust bin in communication with the sweeper aperture required by claim 1. This modification also assumes that the "underside dust bin" meets the dusting assembly limitation of claim 1; however, an "underside dust bin" does reach the claimed dusting assembly. Claim 1 requires the dusting assembly to remove the dust from the surface to be cleaned, and a dust bin, while able to collect dust, does not remove dust. For at least these reasons, the suggested modification to Chmura does not reach claim 1. Chmura does not teach or suggest all the limitations of claim 1, as required to make a *prima facie* case of obviousness, and the limitations not taught or suggested by Chmura, which are listed above, and the claimed invention as a whole would not be obvious to one skilled in the art at the time the invention was made. Claim 1, therefore, patentably defines over Chmura.

Claims 2-4 and 10-12 depend, directly or indirectly, from claim 1 and are patentable over Chmura for at least the same reasons that claim 1 is patentable over Chmura.

Claim 2 further patentably defines over the modified Chmura as it calls for the dusting assembly to comprise a dusting pad for removably mounting a dusting cloth and mounted to the base housing for movement away from the base housing for service of the dusting cloth. Chmura does not teach or suggest any type of dusting assembly, much less the claimed dusting pad and dusting cloth. The Office Action identifies the Chmura brush 54 as the dusting pad

and/or dusting cloth, but, as discussed above, the brush 54 is part of the vacuum arrangement and does not constitute any part of the dusting assembly. It would not be obvious to modify Chmura to include a dusting assembly with the claimed dusting pad and dusting cloth as Chmura does not contemplate a dusting assembly. Claim 2 is, therefore, independently patentable over Chmura.

Claim 3, which depends from claim 2, specifies that the dusting pad to which the dusting cloth is mounted is removably mounted to the base housing. Building upon the remarks presented above for claim 2, Chmura discloses neither a dusting pad for removably mounting the dusting cloth, and, therefore, nor a dusting pad that is removably mounted to the base housing. Even if, *arguendo*, the brush 54 is considered to meet the dusting pad limitation, Chmura does not disclose the brush 54 as being removable. Furthermore, it would not be obvious to modify Chmura to include a dusting pad that is removably mounted to the base housing. It follows that claim 3 independently patentably defines over Chmura.

Claim 4, which also depends from claim 2, calls for the dusting pad to be hinged to the base housing for selective pivoting between first and second positions. Again, Chmura does not disclose a dusting pad for removably mounting the dusting cloth, much less a hinged dusting pad. Even if, *arguendo*, the brush 54 is considered to meet the dusting pad limitation, Chmura does not disclose the brush 54 as being hinged. Furthermore, it would not be obvious to modify Chmura to include a hinged dusting pad as required by claim 4. Claim 4 is, therefore, independently patentable over Chmura.

Claim 10, which depends directly from claim 1, further defines over Chmura by requiring the dust bin to be removably mounted to the base housing. As discussed above, Chmura does not disclose the claimed dust bin, and, therefore, a removably mounted dust bin. If the Chmura vacuum arrangement is considered to be a disclosure of the dust bin, there is no reference to a removably mounted dust bin or other removable dust collector in Chmura. The figure and element referred to in the Office Action with respect to claim 10, Figure 1 and element 20, are not related in any conceivable manner to a removable dust bin. Additionally, claim 10 would not be obvious in view of Chmura because Chmura does not contemplate a dust bin removably mounted to the base housing; thus, claim 10 is independently patentable over Chmura. Claims

11 and 12 each depend directly from claim 10, and similar arguments can be made for the patentability of these claims over Chmura but will not be repeated here for brevity. It follows that Applicants believe claims 11 and 12 are each independently patentable over Chmura.

It is respectfully submitted that the claims are allowable over the prior art of record. Prompt notification of allowability is respectfully requested.

Respectfully submitted,

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